

WHAT IS CLAIMED IS:

1. A control apparatus for a vehicle comprising:
obstruction detection means for measuring a
headway distance until an obstruction existing ahead of
said vehicle by means of a radar apparatus;

means for performing vehicle control or alarm
control on the basis of said headway distance;

means for detecting detection performance of
said obstruction detection means in a vehicle in which
said obstruction detection means is used to perform two
or more controls containing said vehicle control or
alarm control; and

means for controlling to stop operation of
said vehicle control or alarm control in accordance
with said detection performance individually.

2. A control apparatus for a vehicle according
to Claim 1, further comprising means for notifying an
operation stopped state of said vehicle control or
alarm control to a driver.

3. A radar apparatus mounted in a vehicle,
comprising:

obstruction detection means for detecting an
obstruction existing ahead of said vehicle by means of
said radar apparatus;

means for acquiring a speed of the vehicle;

means for identifying a moving body from said
obstruction on the basis of said speed;

means of calculating an RCS value of said

moving body;

means for statistically processing said RCS value; and

means for detecting detection performance of said obstruction detection means on the basis of a result of said statistical processing.

4. A radar apparatus mounted in a vehicle, comprising:

obstruction detection means for detecting an obstruction existing ahead of said vehicle by means of said radar apparatus;

means for acquiring a distance at which an approaching obstruction begins to be detected or a distance at which an obstruction going away begins to be missed, and

means for detecting detection performance of said obstruction detection means on the basis of said distance at which the approaching obstruction begins to be detected or said distance at which the obstruction going away begins to be missed.

5. A radar apparatus mounted in a vehicle, comprising:

obstruction detection means for measuring a headway distance until an obstruction existing ahead of said vehicle or a relative speed to the obstruction;

means for classifying detection performance of said obstruction detection means into a plurality of levels, and

means for outputting said level outside.

6. A vehicle comprising:
 - means for acquiring a speed of said vehicle;
 - obstruction detection means for measuring a headway distance until an obstruction existing ahead of said vehicle; and
 - means for notifying information concerning a relation of said vehicle and said obstruction to a driver on the basis of said speed of said vehicle and/or said measured headway distance;

wherein traveling control of said vehicle is performed on the basis of said speed of said vehicle and/or said measured headway distance;

said vehicle further comprising:

means for judging detection performance of said obstruction detection means;

wherein a method of said notification by said notifying means is changed on the basis of said judged detection performance.

7. A control apparatus of a vehicle, wherein:
 - a vehicle speed is acquired,
 - a headway distance until an obstruction existing ahead of said vehicle is measured by means of obstruction detection means,
 - information concerning a relation of said vehicle and said obstruction is notified to a driver on the basis of said speed of said vehicle and/or said measured headway distance, and

traveling control of said vehicle is performed on the basis of said speed of said vehicle and/or said measured headway distance,

detection performance of said obstruction detection means is judged; and

a method of said notification of said information to the driver is changed on the basis of said judged detection performance.

8. A vehicle according to Claim 6, further comprising

means for canceling said traveling control of said vehicle on the basis of said judged detection performance.

9. A vehicle according to Claim 8, further comprising

means for notifying the driver that said traveling control of said vehicle has been canceled.

10. A vehicle according to Claim 6, further comprising

means for notifying the driver that said method of said notification by said notifying means has been changed.

11. A radar system mounted in a vehicle, comprising:

means for detecting an obstruction;

means for calculating an RCS value of said detected obstruction on the basis of a speed of said vehicle acquired by means for acquiring said speed of

said vehicle; and

means for judging detection performance of said obstruction detection means on the basis of said RCS value.

12. A method of judging detection performance of obstruction detection means, comprising the steps of:

acquiring a speed of a vehicle;

detecting an obstruction by means of obstruction detection means;

calculating an RCS value of said detected obstruction by means of said speed of said vehicle; and

comparing a value calculated on the basis of said RCS value with a predetermined value set previously to thereby judge detection performance of said obstruction detection means.

13. A vehicle according to Claim 6, wherein

said means for judging detection performance of said obstruction detection means comprises

means for calculating an RCS value of said detected obstruction on the basis of said speed of said vehicle and comparing a value calculated on the basis of said RCS value with a predetermined value set previously to thereby judge detection performance of said obstruction detection means.

14. A radar system mounted in a vehicle, comprising:

obstruction detection means for measuring a headway distance until an obstruction existing ahead of

said vehicle;

storage means for storing a distance at which an obstruction approaching to said vehicle begins to be detected or a distance at which an obstruction going away from said vehicle begins to be missed as an initial value when said obstruction detection means is normal;

means for calculating a current value of said distance at which the obstruction approaching to said vehicle begins to be detected or said distance at which the obstruction going away from said vehicle begins to be missed; and

judgment means for comparing said initial value with said current value to thereby judging detection performance of said obstruction detection means.

15. A method of judging detection performance of obstruction detection means, comprising the steps of:

setting as an initial value a distance at which an obstruction approaching to a vehicle begins to be detected when said obstruction detection means is normal, said obstruction being detected by said obstruction detection means;

calculating a current value of the distance at which said obstruction approaching to said vehicle begins to be detected; and

comparing said initial value with said current value to thereby judge detection performance of

said obstruction detection means.

16. A method of judging detection performance of obstruction detection means, comprising the steps of:

setting as an initial value a distance at which an obstruction going away from a vehicle begins to be missed when said obstruction detection means is normal, said obstruction being detected by said obstruction detection means;

calculating a current value of the distance at which said obstruction going away from said vehicle begins to be missed; and

comparing said initial value with said current value to thereby judge detection performance of said obstruction detection means.

17. A vehicle according to Claim 6, wherein

said means for judging the detection performance of said obstruction detection means, comprising:

means for setting as an initial value a distance at which an obstruction approaching to said vehicle begins to be detected and/or a distance at which an obstruction going away from said vehicle begins to be missed when said obstruction detection means is normal, calculating a current value of said distance at which said obstruction approaching to said vehicle begins to be detected and/or a current value of said distance at which said obstruction going away from said vehicle begins to be missed, and comparing said

initial value with said current value to thereby judge the detection performance of said obstruction detection means.

18. A vehicle control apparatus according to Claim 1, further comprising means for classifying said detection performance into a plurality of levels.

19. A control apparatus for a vehicle according to Claim 1, wherein said obstruction detection means is a millimeter-wave radar.

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